

45-46
1955

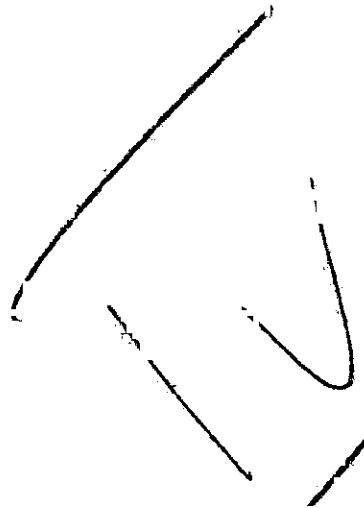
File No. 7656/36

B CLASS

P.W. DEPARTMENT
El. BRANCH

Subject:— Bombay Electric Grid Scheme
Relaxation of Rule 69(1)(a) of
distribution lines of the B16a
Electric Grid Scheme.

B[K]-1946



File No. 7656/36

Std. Sheet Slip 24 A

El. Br.

G.R., G.D., No. 2408, dated 22-6-22.]

Correspondence

DOCKET SHEET

Subject :—

File No. 7656/36

P.W. DEPT.

El. BRANCH.

References :—

Copies of pages from the main file B(m)

Date.	To whom sent.

Notes and instructions.

URGENT.

No.Elq.148/2455.

Letter.

Office of the Special Officer (elec.
Grid),
Old custom House Yard, Fort,
Bombay, 1st August 1945.
3rd

TO

The Secretary to Government,

Public Works Department, Bombay

Subject: Ahmedabad-Baroda Transmission lines;
Distribution system.

In accordance with the Post-war proposals for widespread electrification in the Province, it would be necessary to install hundreds of miles of 11000 Volt and 400-230 Volt over-head transmission lines in village and through agricultural and pastoral lands.

2. In order to make electricity available at moderate rates it is necessary that the capital cost on the rural distribution lines should be kept to the minimum and this can be done by the use of wood poles instead of steel poles wherever possible.

3. I have contacted the Utilisation Conservator of Forests, Poona, and am informed that the principal timber trees from which poles can be extracted in the Province do not grow tall and therefore, while it may be possible to obtain a fairly large quantity of shorter poles annually, the supply of poles of heights 28' and above would be extremely limited. According to the present Electricity Rules, a minimum of 20 ft. ground clearance to live conductor is required. This provision makes it impossible to use short poles and long poles become necessary, resulting in high costs for Rural lines.

4. I, therefore, request for relaxation by the Government of the following rule No.69 of Chapter VIII of the 'Indian Electricity Rules' framed under the 'Indian Electricity Act' No.IX of 1910, as amended by the 'Amendment Act' No.I of 1922

Rule No.69 of Chapter VIII of the Indian Electricity Rules.

(1) Every conductor of an aerial line (not being a trolley-wire or a traction-feeder on the same support as a trolley-wire) shall be -

- (a) at least 20 feet above the ground where it is over any part of a street or other public place;
- (b) inaccessible either from the ground or from any building or structure, whether permanent or temporary, except by the aid of a ladder or other special appliance.

I also quote below rule No.117 which empowers Government to relax any of the provisions of the specified rules under special circumstances.

117. Relaxation by Government.

The Provincial Government or where mines, oil-fields or Railways are affected, the Governor-in-Council may, by order in writing, direct that any of the provisions of rules 38 to 45 and of Chapters VI, VII, VIII and IX of the rules, shall be relaxed in any particular case to such extent and subject to such conditions as it or he may think fit.

5. I request that Government be pleased to relax part 'a' of Rule No.69 in so far as 11000 Volt and 400-230 Volt distribution lines of the Bombay Electric Grid are concerned. Instead of 20' clearance of live conductor above ground, a clearance of 17' may be allowed and an order of Government may be issued accordingly.

6. I attach hereto a copy of this office drawing No. A/T.8, showing a typical span of an 11 KV wood pole line. It will be noted that by adopting 17' clearance and with one, V-shape cross-arm, it will be possible to use poles of 25' height for 11 KV rural distribution lines, of which there may be a few hundred miles. I would state that in England during the war emergency, the permissible ground clearance has been reduced to 17' and I have information that reputed engineers there are inclined to favour this practice as a permanent measure after the war.

A

7. In L.T. distribution lines, the spans are usually of 120 ft. to 150 ft. and if the minimum ground clearance

required

required is 17', this Department can use 24' poles from our forests with all the four conductors on one cross-arm. In this manner most of the requirements of the poles for the rural service lines can be met from our Provincial forests and consequently the electrification of the countryside can be arranged economically.

8. I would state that after order relaxing the rule regarding ground clearance is issued by Government, arrangements will be made to survey carefully all locations and wherever the lines cross important public streets or run alongside them, minimum ground clearance of 20 ft. and not 17 ft., even though permitted, will be used. The relaxation of the rule will be availed of only when crossing fields and countryside by 11000 volt H.T. and L.T. lines and village lanes by L.T. lines.

9. Early orders may please be issued in this matter so that the line designs and specifications may be prepared accordingly.

Sd/-

Special Officer

(Electric Grid.)

Encl: 1 copy of
drawing
No.A/T.8.

The El.Engr. to Govt. may please see for very early remarks.

Id/-
4/8/55.

Urgent.

*with copy of
drawing.

U.O. to El.Engr.* to Govt., dt. 6-8-45.

Below U.O.R. No.7181/36/25658 dated the 6th August, 1945, from Government in the Public Works Department.

No. LRM 31/2234 of 1945.

Bombay, 13th August, 1945.

Returned, with compliments.

2. I do not recommend the relaxation of rule 69 for voltages over 400. No relaxation has been given to any of the Supply companies in this Province for any voltage, and the height, of 20 feet has been maintained for voltages upto 400, and 28 feet for voltages of 3,300 and over.

3. The fatal accidents which have occurred on medium and high pressure lines have been as follows:

- (a) Climbing the poles to secure the copper wire.
- (b) Kite flying; the kite strings get entangled in the wires and bamboo poles are used to release them.
- (c) Considerable trouble has been caused on the Bhatgar-Nira-Ionand line by stone throwing at the insulators which are on this line at a height of 30 feet from the ground. As soon as the insulator is broken, the line falls down, so that the higher the insulators the less likely they are to be broken.

4. The regulation in England is as follows:

MINIMUM HEIGHT OF CONDUCTORS.

"39. The height from the ground of any line conductor at any point on the span at a temperature of 122°F. shall not except with the consent of the Electricity Commissioners, be less than the height hereinunder stated:

Voltages not exceeding 66,000 volts.	-	20 feet.
Voltages exceeding ^{66,000 volts} & not exceeding 110,000 volts. ^	-	21 feet.
Voltages exceeding 110,000 volts and not exceeding 165,000 volts.	-	22 feet.
Voltages exceeding 165,000 volts.	-	23 feet.

The height from the ground of an earth wire or auxiliary conductor shall not be less than the minimum heights prescribed in Regulation 38."

5. With regard to relaxation for medium and low pressure if

if Government allow this for their own lines, it will naturally follow that relaxation will have to be given for all Supply Companies. The undersigned is of the opinion that the relaxation is only meant to be given in certain particular cases where it is not possible for a height of 20 feet to be maintained. Relaxation could be given for earth wires and neutral wires, if considered expedient.

6. From the Special Officer, Electric Grid's letter, it would appear that relaxation is required on account of the use of wood poles, instead of steel poles. The use of wood poles is not recommended in the case of high pressure lines in this country, as they have a very short life and are much more susceptible to damage, and replacement entails very high maintenance charges.

7. The undersigned is of the opinion that wood poles should only be used for service lines.

Sd/-

Electrical Engineer to Govt.

El.Br.(I).

For reasons given in paras 2 & 3 of his letter within, the S.O., (El.Grid), requests that under the powers conferred by rule 117 of the I.E.Rules, 1937, Govt. be pleased to relax the provision in rule 69(1)(a) in so far as 11,000 Volt and 400-230 volt distribution lines of the Bombay El. Grid are concerned and instead of 20 ft. clearance of live conductor above ground, a clearance of 17 ft. may be allowed. In this connection, the S.O. ~~states~~ observes that the relaxation of the rule will be availed of only when crossing fields & countryside by 11,000 Volt H.T. and L.T. lines and village lines by L.T. lines and further adds that wherever the lines cross important public streets or run alongside them the minimum ground clearance of 20 ft. will be maintained instead of 17 ft.

2. From the remarks of the El.Engr. to Govt. it is seen that he is not in favour of granting the general relaxation of rule as requested by the S.O. He is of opinion that the relaxation is only meant to be given in certain particular cases where it is not possible for a height of 20 feet to be maintained and such relaxation could be given for earth wires and neutral wires, if considered expedient.

3. The El.Engr. to Govt. further opines that wood poles should only be used for service lines and does not recommend their use in the case of high pressure lines in this country as they have a very short life and ~~are~~ are much more susceptible to damage & replacement entails very high maintenance charges.

4. Before further action is taken, the El.Engr's opinion may be shown u.o. to the S.O. (El.Grid) for his remarks thereon.

Id/-
20/8/45.

Yes, the S.O. may see the E.E. to Govt.'s remarks would be please state whether such relaxation has been permitted in the Madras Province and the Mysore State. I would be glad if the s.o. could kindly quote the authority on which the statement marked 'A' (p.2 ante) in para 6 of his note is based.

Id/-
23/8/45.

Urgent.

U.O. to the S.O. (El.Grid), dt. 25-8-45.

U.O. S.O. Gdtd.

REF:A.950/320

Sir,

OVERHEAD LINE REGULATIONS.

1. The Electricity Commissioners have had under consideration the question of securing further economies in the use of materials in connection with the construction of overhead lines, particularly those erected for meeting wartime demand of a temporary character; and desire to draw the attention of Electricity Undertakers to the suggestions and proposed modifications in their Overhead Line Regulations set out below with these objects in view.

2. In the first place, all overhead lines which are erected for meeting purely war-time demands should be designed as closely as possible to the electrical requirements of the demand and should not allow any unnecessarily large margins of current carrying capacity.

3. In the next place, the Commissioners will only be prepared to authorise the acquisition of iron and steel for overhead line supports in special circumstances, and the maximum use must therefore be made of wood poles and of reinforced concrete supports of approved construction and design.

High Voltage Lines.

4. As the result of further experience of the employment of high voltage overhead lines with small line conductors constructed in accordance with the relaxations set out in their circular letter of 24th September 1937, the Commissioners will be prepared to approve of certain further modifications of their overhead line Regulations of 1931 (El.C. 53 Revised) except possibly in cases where the lines are to be in localities where climate conditions are unduly severe.

5. The following modifications will apply to high voltage lines making use of conductors of sizes ranging from No.8 S.W.C. (specified in Regulation 3) up to 0.04 square inch of copper (or copper equivalent for composite metal conductors).

(a) Supports : Factors of Safety (Regs. 6 & 7)

(i) For supports consisting of imported pinewood poles, a factor of safety of not less than 2.5, in lieu of 3.5 as at present.

(ii) Supports consisting of home grown wood poles may be used with a factor of safety of 3.5 in the case of lines of a permanent character; but in the case of lines of a temporary character or for less important supplies, with a factor of safety of not less than 2.5 in lieu of 3.5 as at present.

(iii) For reinforced concrete supports of approved design, a factor of safety of not less than 2 in lieu of 3.5 as at present.

(iv) When calculating the size of support the wind pressure on the support may be left out of account, subject however to the loading on the conductors being calculated on the basis set-out in paragraph (b) below.

(v) The minimum size in the case of wood poles to be not less than 7 inches in diameter at a point 5 feet from the butt end.

(b)/

(b) Line Conductors Factor of Safety (Reg.15)

A factor of safety of not less than 2.5 for line conductors, based on the breaking load and calculated on the assumptions (i) that the line conductors are at a temperature of 22°F. but are without any ice loading; and (ii) that the wind is exerting a pressure equivalent to 16 lbs. per square foot calculated on the whole of the projected area of the conductors.

(c) Minimum height of Conductors (Reg.16)

A height of not less than 17 feet from the ground at any point on the span at a temperature of 122°F. and for voltages up to 33,000 volts. This relaxation will not apply at road crossing positions where the minimum heights prescribed by Regulation 16 will continue to apply.

(d) Provision to Prevent Danger (Reg.17)

The omission of the continuous earth wire and of the earthing of the metal works on wood supports, subject however to all metal work (other than conductors) being efficiently bonded, and in the case of transformer poles, to all non-current carrying metal work being connected with earth.

(e) Road Crossing etc. (Reg.18).

The omission of duplicate insulators, bridges, clamps and earth bars at road crossings, subject however to the line conductors being bound to their insulators in a satisfactory manner, e.g. by a stirrup type binding; and subject to the use at the road crossing of insulators of the next higher rating to that recommended in Table II of British Standard Specification 137 of 1941 for the appropriate line voltage. Where overhead lines cross Post Office circuits or are in proximity thereto, the lines must still comply with the requirements of Post Office Memorandum E in C.231A.

2.

6. With regard to other high voltage lines making use of conductors of sizes from 0.05 square inch upwards, the Commissioners will be prepared to approve in relation to such lines the modifications set out in paragraphs 5(c) (Minimum height of Conductors), 5(d) (Provision to prevent danger) and 5(e) (Road Crossings); but such lines must in all other respects comply with the provisions of the Overhead Line Regulations.

7. Where undertakers desire to erect overhead lines designed in accordance with any of the modified requirements indicated above, this should be clearly stated in the application to the Minister of Fuel and Power for the necessary consent, and the relevant particulars as to size of line conductors, size of poles, factors of safety, and minimum height of line conductors above ground should be furnished with the application.

8. An additional copy of this letter is enclosed for the information of the Chief Electrical Engineer or Manager.

I am, Sir,
Your obedient servant,
Ed. R.T.G.FRENCH
Secretary.

Circular letter to all Electricity Undertakers.

Below u.o.r. No.7151/36 dated 25th August 1945,
from P.W.D., Bombay.

Office of the Special Officer
(Electric Grid).

Note of the Electrical Engineer to Government:-

Discussing the merits of the proposal from the public safety point of view, it may be said that larger the ground clearance, greater the margin of safety. The point for consideration, however, is whether the present conditions of short supply and very high cost of all materials, call for special relaxation even at a slightly increased risk. In this regard there is no sanctity about a minimum 20 ft. If the clearance of 17 ft. is accepted, in cross country runs, a grown up man with a head load will have a clearance of not less than 5 ft. to the line which should suffice.

Clearance of 28 ft. for voltages of 3,300 and over is not required by the Indian Electricity Act. In understanding it is not prevalent in Madras or Mysore.

2. I agree that if relaxation is granted for Government works, it cannot be refused to licensees.

3. In para. 5 of the Electrical Engineer's note, there seems to be a suggestion that under the Indian Electricity Act the relaxation is intended to be granted only in individual cases. I suggest that this legal point may be examined in the Secretariat.

4. Regarding the opinion of the Electrical Engineer about the use of wood poles, the objections mentioned by him are known. Various treatment methods are being devised to get over the short life difficulty but disadvantages are inherent in any proposal which seeks to utilise less costly material than steel. In Madras, they have used wood poles in rural high voltage lines and Mysore has used wood poles for some of their main 70,000 volt lines.

Deputy/

Deputy Secretary's Note :-

5. As regards the Deputy Secretary's remarks, the Government of Madras have not recently given any relaxation regarding ground clearance except in the case of Tea Estates areas of Anamalai, where the ground clearance of not less than 15 ft. has been permitted. The ground in this case is undulating and pole positions are not necessarily at the highest mound. I understand that the Mysore Government do not give effect to the Indian Electricity Act. They have had under preparation their own Act. I do not know definitely whether it has been passed. As regards the question of clearance, I am informed that when the Mysore Government were constructing the transmission line from their hydro generation to Mettur in the Madras Province, one of the conditions was that the Madras Government would not insist upon the observance of the Rules of clearance etc. under the Indian Electricity Act in this connection with this line. While no reliable information is immediately available to me, I am informed that the clearance in this case is about 17 ft.

6. As regards relaxation in Britain I attach hereto a copy of letter dated 16th September 1942 addressed by the Electricity Commission, London, to Electricity Undertakes re: overhead line regulations. This was supplied to me by Mr. Kennedy (Junior) of Messrs. Kennedy and Donkin, Consulting Engineers of London. This firm is one of the Consulting Engineers to the British Electricity Board. Mr. Kennedy called on me recently and told me that owing to the present high cost, many engineers in England were inclined to favour the relaxation practice as a permanent measure after the war.

Sd/-

Secy. to Govt.,
P.W.D., Bombay.

U.O.R. No. Elg.148/2911
Bombay, 7th Sept. 1945.
12th

Encl. 1

I do not think that there is any serious objection to accept the S.O.'s proposal. The objections taken by the El.Engr. to Govt. in para. 3 of his note (page 3 ante) are applicable equally well to transmission lines with ground clearance of 20 ft. The clearance has been specified on consideration of safety based on common sense and not on any technical grounds, and as the S.O. has pointed out, a man carrying a head-load can pass under a 17 ft. high line with ample clearance, there seems to be no reason why the clearance should not be reduced from 20 ft. to 17 ft. in their interest of economy and convenience. The S.O. has agreed to maintain 20 ft. clearance wherever the lines cross cart-tracks, roads, &c.. In Great Britain the clearance of overhead lines was reduced to 17 ft. as a measure of war-time economy but Col. Evans told me that the reduced clearance was likely to be adopted even in the post-war period.

2. For the present relaxation may be permitted in case of transmission lines of 11 k.v. and less. This relaxation will also have to be permitted in the case of licensees under similar conditions. There is, however, hardly any likelihood of this as practically all the future cross-country transmission lines would be constructed by the Grid.

3. There seems to be no objection to the use of timber transmission poles provided the timber is properly selected, well seasoned and proofed against attack of termite.

4. Though the drawing does not show any details, it is presumed that the wooden poles would be embedded in concrete. I may, however, suggest that instead of burying the poles 4'-6" in ground they may be erected on cement concrete platforms at or slightly above the ground level. In this arrangement the poles will merely rest on the platforms and will be secured to steel brackets embedded in the platform concrete. With this arrangement it will be possible to use poles shorter by 4½ ft. and though the cost of steel brackets would add to the initial expenditure, renewals of

poles will be far easier and cheaper as it will not be necessary to disturb the foundations at all. The portion of wood buried underground is most vulnerable to termite attack and perishes more rapidly. Also any damage caused below the ground level is not visible. With the arrangements suggested these serious drawbacks disappear. The S.O. may be requested to consider this suggestion.

5. As the whole proposal constitutes a radical departure from the current practice, A(R) may perhaps see.

Id/-
17/9/45.

Except as a measure of economy and the use of Local Provincial Forest produce I would be disinclined to agree to a reduction of height of 17 ft. above G.L. The use of Timber for poles is not uncommon even European and American areas and as a war-time measure the telegraph Deptt. of the G. of I. has used wooden poles for miles of their new lines - presumably temporary ones.

2/- I, therefore, suggest acceptance of D.O's proposal of reducing height of Electrified wire above ground from 20' to 17' in rural areas & where road, canal & such other crossings are not involved. This concession should be given to private undertakings, also, if asked for.

3/- The S.O. will obviously take all the precautions to ensure a long life & a safe life to the Poles made of Timber.

Id/-
30/9

-----oOo-----oOo-----

El.Br.(I).

P. W. D.

These papers deal with the request of the S.O. (El.Grid) that Govt. be pleased to relax the provision in rule 69(1) (a) of the I.E.Rules, 1937 in so far as 11,000 volt and 400-230 volt distribution lines of the Bombay El.Grid. are concerned and instead of 20 feet clearance of live conductor above ground as provided in the said rule, a clearance of 17 feet may be allowed.

In this con. the S.O. observes that the relaxation will only be availed of when crossing fields and countryside by 11,000 volt H.T.L.T.lines and village lanes by L.T. lines and further adds that wherever the lines will cross

cross important public streets or run alongside them a minimum ground clearance of 20 ft. will be maintained instead of 17 ft.

2. The reason for the proposed relaxation is that with a view to make electricity available at moderate rates it is proposed to keep down the capital cost to the minimum by using wooden poles instead of steel poles wherever possible and that the supply of wooden poles of height of 28 feet and above would be extremely limited vide S.O.'s letter on pp. ante.

3. Attention in this connection is invited to the following proceedings:-

- (i) Remarks by the El. Engr. to Govt.
- (ii) Dy. Secy's note, dated 23-8-45.
- (iii) Remarks of the S.O. (Elec. Grid.)
- (iv) Dy. Secy's note, dated the 17-9-45
and
- (v) Secy. (I)'s note, dated 30-9-45.

The points raised by the El. Engr. to Govt. and the Dy. Secy. (Mr. Pandit) in (i) and (ii) above have been dealt with by the S.O. The Dy. Secy. (Mr. Pandit) did not think that there was any serious objection to accept the S.O.'s proposal and has observed that, as the S.O. has pointed out a man carrying a head-load can pass under a 17 ft. high line with ample clearance, there seems to be no reason why the clearance should not be reduced from 20 ft. to 17 ft. in the interest of economy and convenience.

He also saw no objection to the use of timber transmission poles and provided the timber is properly selected, well seasoned and proofed against attack of termite and has made certain suggestions in para. 4 of his note regarding the erection of the poles.

As a measure of economy and to make use of Local Provl. Forest produce the Secy (I) has no objection to the use of timber poles and suggests the acceptance of the S.O.'s proposal of reducing height from 20 ft. to 17 ft. in rural areas and where road canal and such other crossing are not involved. He also suggests that this concession should be given to private undertakings also, if asked for - vide his note, dated the 30-9-45.

4. Before the papers are submitted to A(R) with ref. to the suggestion of the Secy. (I) above there is one more point which requires consideration. The S.O. has requested the proposed relaxation of rule 69(1) (a) of the I.E. rules 1937 should be made by Govt. under rule 117 of those rules, which is as follows.

"117. Relaxation by Govt. (1) The Provl. Govt. or, where mines, oil fields or railways are affected, the Central Govt. may by order in writing, direct that any of the provisions of rules 38 to 45 inclusive and 48 and also of chapters VI, VII, VIII and IX of these rules shall be relaxed in any particular case to such extent and subject to such conditions as it or he may think fit.

(2) The Central Govt. may by order in writing directed that any of the provisions of Chapter X of these rules shall be relaxed in any particular case to such extent and subject to such conditions as he may think fit."

Attention in this con. is invited to para. 5 of the El. Engr.'s note, dated the 13-8-45 and para. 3 of the S.O.'s

S.O.'s note dated 7-9-45. The point for consideration is whether under the provisions of rule 117 reld. to above Govt. is competent to order the relaxation, requested by the S.O., which will be applicable to all works carried out under the general El.Grid Scheme. The proposed relaxation will be of a general nature in so far as works under the El.Grid scheme are concerned.

The R.L.A. may be requested u.o. to advise on this point urgently.

5. With ref. to the point raised in the preceding para. it is ~~far~~ added for information that sometime back Govt. proposed to relax the provisions of sub rules (2) and (3) of rule 62 of the I.E.Rules generally but the R.L.A. then observed as under:- (vide his opinion No.226 dated the 9-1-45).

"Neither rule 117, nor rule 118 enables the making of an Order of relaxation in relation to the generality of cases to which the second proviso to sub rule (2) and the proviso to sub rule (3) of rule 62 now sought to be relaxed relate. An Order under either rule must be in relation to a "any particular case" as stated in the rule. To achieve the object in view an amendment of rule 62 seems necessary."

In view of the above opinion of the R.L.A. it seems that no general relaxation can be granted in this case but relaxation will have to be granted in each specific work or scheme under the general Electric Grid Scheme. The R.L.A. may, however, be requested to advise as proposed above.

Id/-
20/8/45
10

Ref: El.Engr's remarks in para 3(c) p.3, in there ~~may~~ ~~making~~ any method of reducing damage to insulators by stone throwing, other than by raising height above ground. A reference to Madras, Mysore, Punjab & U.P. might be useful on such points as this, and on the type of foundation, & in fact ground clearance

S.O. may see following draft for remarks, before point raised in paras. 4 and 5 above are referred to R.L.A.

Id/-
22/10

Public Works Department,
No.7656/36El(I). Borbay Castle, 1st Nov. 1945.

To

The Chief Engineer for Electricity	...	...	Madras
- do - - do - - do - - do -	...	...	Mysore
- do - - do - - do - - do -	...	...	Punjab
- do - - do - - do - - do -	...	...	U. P.
Irrigation Branch			

Subject: Poles for transmission
and distribution lines.

Sir,

I am directed to request you to be good enough to supply this Government with a copy of your type designs for wooden poles for transmission and distribution lines, it used in your Province.

2. I am also to enquire whether the minimum ground clearance for transmission and distribution lines of 20' as required by rule 69, Chapter VIII of the Indian Electricity Act is adhered to in your Province and whether any reductions is under consideration. Also whether any difficulty has experienced in the breakage of insulators by stone throw at them and whether any remedy has been found effective.

3. I am to request the favour of neeq. early reply.

Your obedient servant,

Id/-
22/10

U.O. E 10 S.O. (Grid)

V.Urgent.

*with file
No.1611/38-VII.

u.o. to *the S.O. (El.Grid) dt. 23-10-45.

Below P.W.D. u.o.r No. 7656/36, dated 23rd October 1945.

Office of the Special³ Officer,
(Electric Grid).

A reference is invited to my letter No. Elg.158/3545, dated 25th October 1945, and its enclosures on the subject of wood poles for Nursery Schemes. In discussing the matter with Mr. Petty (Special Conservator of Forests-Planning) on the 23rd October 1945, he was somewhat perturbed by the fact that as many as 2,500 poles of 32' to 34' were needed for schemes sanctioned in G.R., P.W.D., No. 6730/36(4), dated 11th October 1945. He stressed the necessity of keeping the length down to 30ft. and less, for as many poles as possible. It can only be done if my proposal which is the subject matter of this file, is agreed to.

I agree,
but en-
quiring
my issue.
Id/-
31/10 00

2. Government of this Province has decided on an extensive programme of rural electrification. The problem, is, therefore, of special interest in this Province. I doubt if it has been specifically considered in other Provinces. Further consideration of the matter should not in my opinion be kept pending the receipt of replies to the letter proposed to be issued.

3. I accordingly request that the matter be referred to the Remembrancer of Legal Affairs, for opinion on the following two points:-

(i) Does his ruling about the Government having power to give relaxation "in a particular case" cover relaxation being given in respect of work to be carried out in any particular area, e.g. townships and rural areas sanctioned in G.R., P.W.D. No. 6730/36(4), dated 11th October 1945.

If the reply is in the negative,

(ii) Can Government given relaxation in respect of specific transmission and distribution lines which may be marked on blue print maps of the towns and areas sanctioned under the above G.R.

Secy. To Govt.,
P.W.D., Bombay,

U.o.r. No. Elg. 148/3570, Bombay, 29th October 1945 with file
No. 1611/36 VII.

Id/-
29/10/45.

contd ..

El.Br.(I).

P.W.D.

Submitted with reference to the Dy. Secy's noted ~~the~~ 22-10-45, and the O.N. preceding it.

2. In view of the opinion of the S.O. (El.Brld.) it is for consideration whether -

(a) the draft letter on p. ante may be issued and the papers may then be refd. u.o. to the R. & A. for his advice on the two points raised by the S.O. with reference to the noting in paras 4 & 5 of the O.N. dt. the 20-10-45.

or

(b) the papers may at this stage be subtd. to the Secy (I) & A(R) for orders on the main proposal of the S.O. - vide Secy(I)'s suggestion refd. to at 'A' in para 3 of the O.N. on p. ante and on the proposed draft letter and the papers may then be refd. to the R. ~~A~~-A. for his advice with reference to 'X' on p. ante.

Id/-
30/10/45.

The S.O.(El.Grid) has no objection to the letter at p.19 to issue; only he desires that ^{further consideration} ~~on the point~~ may not be delayed by waiting for replies to the letter. Issuing the letter immediately is on the other hand desirable as the practice in the provinces mentioned in the letter would be known till the point runs its ^{Course} ~~course~~ of consideration by the authorities of this Govt.

The papers may be r ferred to the R.L.A. at this stage only.

Id/-
30/10/45.

Enquiry on p.19 may issue.

2. File may then be refer ed to R.L.A. for opinion on points raised by S.O. i para 3, p.21/22 with ref. to El. Engr's remarks on p.4.

Id/-
31/10.

V.Urgent.

*U.O. to R.L.A. dt. 3rd November 1945.

*with file
No.1611/36/
VII.

SAP/-

Electricity Department.

From

The Chief Engineer for Electricity,
Chempauk, Madras.

To

The Deputy Secretary to the Government of Bombay,
Public Works Department,
Bombay.

No. 6841M/45-2 dated 9th Novr. 1945.

Sir,

Sub:- Wood poles for transmission and distribution
lines.

R f:- Your letter 7656/36-El(I) dated 1.11.1945.

With reference to the above, I forward herewith one copy of sketch No. M. 684 showing type designs for wood poles for 11 KV. transmission and distribution lines generally adopted in this department.

2. Clearance to ground: The minimum clearance to ground, viz. 20 feet required in Rule 69, Chapter VIII of the Indian Electricity Rules is being adhered to in this Department for all transmission and distribution lines and no proposal to reduce this clearance is now under the consideration of this Department.

3. Damage to insulators by stones thrown at them:- Slight difficulty was experienced in the early stages of development, due to mischievous boys throwing stones at the insulators, but not now. No special steps were taken by this Department.

Sd/-

Chief Engineer to Electricity.

Act with thanks
& para. 15 (S.O.)
(Grid)

Id/-
14/11

Encl: 1 sketch.

7656/36
37838

El.Br.(I).

P. W. D.

Resubtd. with reference to the Dy. Secy's orders on p. . ante.

2. The receipt of the letter has been acknowledged.

3. The main file containing our letter to the Chief Engr. for Ely., Madras, & other 2/3 Govts. is under u.o.r. to the R.L.A. for his advice on the point raised by the S.O. req: the power to relax I.E. ^{Rule} file 69(1). The replies from the Govts. to our letter are also awaited. ¶ In the meanwhile it is presumed that this reply from the Govt. of Madras is to be shown u.o. to the S.O.(El.Grid) for information.

Id/-
20/11/45.

S.O. may remove print if required.

Id/-
20/3

Urgent.

U.o. to the S.O.(El.Grid.), dt. 21-10-45.

Seen and returned with comps. The blue print is not required for this office.

Id/-
30/11/45.

Sec.To. Govt.

P.W.D.

U.O.R. No. 148/3994 dt. 30-11-45.

↗
GOVERNMENT OF MYSORE

Office of the Chief Electrical Engineer
to the Government of Mysore,
BANGALORE.

No.16756

Date 19th DEC. 1945.

To
THE DEPUTY SECRETARY TO THE GOVT. OF BOMBAY,
Public Works Department, BOMBAY.

Sir,

POLES FOR TRANSMISSION & DISTRIBUTION LINES.

With reference to your letter No.7656/36-El.(I) dated the 1st Nov.1945 requesting for type designs for wooden poles used on the Transmission & Distribution Lines etc., for the information of the Government of Bombay, I have the honour to state that a reference may kindly be made to the Chief Secretary to the Government of Mysore, Bangalore, in the matter.

I have the honour to be,
S i r,
Your most obedient servant,

Sa/-
Chief Engineer Electrical Engineer

El.Br.(I).

P. W. D.

Submitted.

2. The G.L. refd. to overleaf is in the main file, which is under u.o.r. to the R.L.A. since 2nd Nov. 1945. The file was refd. to the R.L.A. for his advice on the point raised by the S.O. reg: the power of the Provl.Govt. to relax I.E.Rule 69(1). It has not yet been read back though he was expedited their in the matter. These papers may be refd. u.o. to him with a request to expedite the return of main file with his opinion. In case the main file is likely to be delayed further he may be requested to return these papers to this Department with a copy of G.L. No. 7656/36 El(I), dt. the 1-11-45, from the main file for further action with reference to the letter on p. ante.

Id/-
5/1/46.

Id/-
5/1/46.

Urgent.

U.O. to the R.L.A., dt. 7-1-46.

Punjab P.W.D., Electricity Branch.

No. 2761/S1/70.

Dated 17.12.1945.
4. 1. 46.

From

The Chief Engineer, Punjab,
P.W.D., Electricity Branch,
Lahore.

To

The Deputy Secretary to Govt. of Bombay,
Public Works Department,
Bombay Castle.

Subject:- Wooden poles for transmission & Distribution
lines.

Sir,

With reference to your letter No. 7656/36-E1(1) dated 1.11.45, I have the honour to forward herewith a copy of our Drawing No. U/DM-51 (Revised) showing the complete design of wood pole fittings for transmission and distribution lines.

2. Regarding ground clearance I have to state for your information that Rule 69 of the Indian Electricity Rules (1937) has been relaxed in the case of the Punjab P.W.D. Electricity Branch for medium pressure lines as follows:-

- | | | | |
|---|---|---|--------|
| 1. Ground clearance of lowest conductor across Public Roads | - | - | 19 ft. |
| 2. - do - along Public Roads | - | - | 17 ft. |
| 3. - do - inaccessible to Vehicular traffic | - | - | 15 ft. |
| 4. - do - at places where Taxis are to pass. | - | - | 20 ft. |

For high pressure transmission lines there is no relaxation.

3. There have been n oases of the breakage of insulators by stones thrown at their by children ect. after adopting the clearance mentioned above.

I have the honour to be,
Sir,
Your most Obedient Servant.

Sd/-
Deputy Chief Engineer.
for Chief Engineer.

Office of the R.L.A.

Point (i) of the Special Officer (Elec.Grid) at

page 21 ante. The proposal is to relax the provisions of rule 69(a) of the Indian Electricity Rules 1937 under rule 117 of the said Rules in respect of works to be carried out in townships and rural areas sanctioned in G.R., P.W.D., No.6730/36(4) dated 11-10-1945. To sanction such relaxation generally in respect of works to be carried out in townships and rural areas specified would not be valid. An order under rule 117 must be in relation to any particular case. To give sanction generally would amount to abrogating the rule 69(a) in respect of every work situated in the areas covered by the Post War Reconstruction Electric Grid Scheme. What the rule contemplates is that ~~the~~ the provisions regarding minimum height of conductors should be in full force and operation and should be complied with except in a part of the work where the order so provides. There is nothing R.L.A.'s opinion No.228 dated 9th January 1945 to suggest that the case in question would be deemed to be a particular case as envisaged in that opinion especially in view of the statement made in paragraph 2 of D.S., P.W.D.'s note at page 14 ante.

Point (ii) of S.O.(Elec.Grid)'s note at page 21 ante.:

If the relaxation is sought to be given in respect of few and not all transmission and distribution lines which may be marked on blue print maps of each town or area sanctioned in the G.R., P.W.D., No.6730/36(4), dated 11-10-1945, all these specific transmission and distribution lines would be deemed to be particular cases within the meaning of r 117. The blue print maps of such area must however show that the provisions of rule 69(a) are intended to be complied with generally, except at the markings made in the blue print map of each area.

Sd/-
for Remembrance² of Legal Affairs.

*with P.W.D. file U.R. to P.W.D.*No. 335, dated the 15th January 1946.
7656 & file 1611/
36 VII & G.R.
730/36(4).

Submitted with ref. to the proceedings on pp. ante.
2. The E.L.A. has given his opinion on p. ante with ref. to the two specific points raised by the S.O. in para. 3 of his note on pp. ante. The S.O. may first see the opinion of the E R.L.A. u.o. and offer his ^{further} remarks in the matter.

*Madras
Mysore
Punjab
U. P.

3. As regards the ref. made to other Govts.* in G.L.No. 7656/36-El.(I), dated the 1-11-45, replies have been recd. from the Govts. concerned except from Mysore. The following information was asked for :-

- (a) copy of type designs for wooden poles for transmission and distribution line used in the Province.
- (b) whether minimum ground clearance for transmission and distribution lines of 20', as reqd. by I.E.Rule 69, is adhered to in the province and whether any reduction therein is under consideration
- (c) whether any difficulty ^{and} has been experienced in the breakage of insulators by thrown stones at them and whether any remedy has been found effective.

Refd.u.o.to
S.O. for in-
formation.

4. Reg(a): Type designs have been submitted by the Ch.Engr. for Elec. Madras and U.P. and that from the Punjab Govt. is awaited.

5. Reg(b): In Madras the minimum of 20' is being adhered to for all the transmission and distribution lines and there is no proposal to reduce this minimum.

Th- Punjab the rule has been relaxed only for medium pressure lines as follows:-

- | | |
|---|--------|
| 1. Ground clearance of lowest conductor <u>across</u> public roads. | 19 ft. |
| 2. - do - <u>along</u> public roads | 17 ft. |
| 3. - do - inaccessible to Vehicular traffic. | 15 ft. |
| 4. - do - at places where Tazias are to pass. | 20 ft. |

The reply of U.P. has been sent u.o. to the S.O. for information. So far as office remembers no relaxation of the minimum clearance has been made in U.P.

6. Reg.(c). - In Madras slight difficulty was experienced in the early stages of development due to mischievous boys throwing stones at the insulators but not now. No special steps were taken to prevent this.

In Punjab there have been no such cases.

In U.P. ^{now} also, so far as office remembers, there have been no such cases.

7. The Ch.El.Engr., Mysore states that a reference may be made to the Ch. Secy. of that Govt. It would be preferable to obtain the information through the Resident. The draft put up may be issue., if approved.

8. After issue of the proposed draft the papers may be reld. u.o. to the S.O.(El.Grid) with ref. to para. 2 above.

Id/-
22/1/46.

Id/-
22/1/46.

Id/-
22/1/46.

To

The Hon'ble the Resident in Mysore.

Sub: Poles for transmission and distribution lines.

Sir,

I am directed to request you to be good enough to supply this Govt. with copy of the type designs for wooden poles for transmission and distribution lines, if used by the Elec. Deptt. of the Mysore State.

2. This Govt. would also be grateful for the following information from the Mysore State:-

(a) whether the minimum ground clearance for transmission and distribution lines of 20', reqd. by rule 69 of the I.E.Rules 1957, is adhered to in the State and whether any reduction therein is under consideration,

and
(b) whether any difficulty has been experienced in the breakage of insulators by stones thrown at them and whether any remedy has been found effective.

3. The favour of a very early reply is requested.

Your obedient servant,

Id/-
22/1/46.

Issue & refer u.o. to the S.O.(El.Grid.)

Id/-
22/1/46.

Id/-
22/1/46.

*with file No.
1611/36 VII.

V.Urgent.

U.O. *to the S.O.(El.Grid), 24-1-46.

It will be noted from the letter of the Punjab Govt. page 37, that general relaxation has been granted by that Govt. In conclude from this that the law Officer of the Punjab Govt. hold a different view from that expressed by the R.L.A. at page 39. The matter is important, and as the procedure proposed ~~will~~ will be cumbersome and will make for delays, I suggest that R.L.A.'s attention should be specifically drawn to the Punjab letter & he may be requested to reconsider the question.

Id/-
30/11/46.

Sec. To Govt.
P.W.D.

U.O.R. No.Elq.148/441 dt.31-1-1946
with file No. 1611/36 VII.

Copy of No. C-582/T-76(7) dated December 22, 1945 from the Hydro Electric Engineer, P.W.D., I.B. Roorkee to the Chief Engineer Western Canals.

Reference You 4664/IN/158B-671W, dated 14-11-45 I enclose two copies of a drawing showing type design of wood pole lines.

We maintain a ground clearance of 20 ft. as required under the Electricity rules and cannot deviate therefrom without legislation. I understand the Central Government have under consideration the relaxation of this rule to permit construction of Rural lines with a minimum ground clearance of 15 ft.

Practically no difficulty has been encountered in respect of breakage of insulators due to stone throwing.

Insulator manufactures can offer special designs for toughened insulators to minimise breakage from this hazard if it is found to be prevalent but there are few stones in the rural areas covered by the U.P. system.

No.5434-III
158B-671W/II.

Chief Engineer's Office,
United Provinces,
Public Works Department.

Dated Rorkee the 5th January 1946.

From

W.M.G. Dawson Esqr., OBE., MC., I.S.E.,
Chief Engineer,
United Provinces,
Public Works Department,
Irrigation Branch.

To

The Deputy Secretary to the Government of Bombay,
Public Works Department,
Bombay Castle.

Subject:- Poles for transmission and distribution lines

Sir,

With reference to your letter No.7656/36-EL(1) dated November 1, 1945 on the subject mentioned above, I have the honour to enclose herewith a copy of a letter no.C.582/T-76(7) dated 22-12-45 from the Hydro Electric Engineer U.P. together with a drawing showing the type design of wood pole lines.

I have the honour to be,
Sir,
Your most obedient servant,

Encloses.
As above.

Sd/-
(L.P.Bhargava) I.S.E.
Personal Assistant (H)
for Chief Engineer (W)

I think this is further
S.O. Send immediately.
Id/-
10/1/46.

E.Br.(I).

7656/36
1059
P. W. D.

Resubm'tted with reference to the Dy.Secy's note overlea

2. The informn. was called for by thje D.S.(Mr.Thomas) with reference to the S.O's proposal to relax under I.E.Rule 117 the provisions of I.E. rule 69(1)(a) for maintaining a ground clearance of 20 feet. The main case is under u.o.r. to the R.L.A. since 2nd Novr. 1945. He has been expedited recently in the matter. Pending the return of the main file from the R.L.A. the S.O.(El.Grid) may see these papers u.o. for information.

Id/-
14/1/46.

Id/-
14/1/46.

*with drawing
refd. to.

*U.O. to the S.O.(El.Grid) dt. 15-1-46.

SAP/-

2 4
2 /

Below u.o.r., P.W.D.(El.Br.1), No. 7656/36
1059.
dated 15-1-46. -----

Electric Grid Offices.

Seen and returned with compliments.

To
The Secy.To Govt.,
P.W.D.,
Bombay.
u.o.r. No. Elg.148/321
dated 23rd January 1946.

7656/36
6184.

El.Br.(I).

P. W. D.

Submitted.

2. Please see para 2 of the O.N., dt. the 22-1-46 and the S.O.'s remarks on p. ante. The papers may be reld. u.o. to the R.L.A. again with reference to the suggestions of the S.O. ~~mf~~ at 'A' of his note.

Id/-
2/2/46.

Id/-
2/2/46.

V.Urgent.

*U.O. to the R.L.A. dt. 2-2-46.

*with file No.1611/36 Part VII.

42

Office of the R.L.A.

Seen and returned.

2. The letter of the Chief Engineer Punjab, does not contain any new ground which calls for modification of the view expressed in R. L. A's opinion No.335, dated the 15th January 1946.

Sd/-

Remembrances of Legal Affairs.

U.R. to P.W.D., No.1098, dated 8th February 1946.

7656/36
5799.

El.Br.(I).

P. W. D.

Submitted with reference to the O.N., dated the 2-2-46.

2. The R.L.A's opinion overleaf may be shown u.o. to this^c S.O.(El.Grid), with a request to submit his further proposals in the matter.

Id/-
9/2/46.

Id/-
9/2/46.

V.Urgent.

U.O. *to the S.O.(El.Grid), dt. 11-2-46.

* with file No.1611/36 VII.

Pb., P.W.D. Electricity Branch.

.....

Memo. No. 158/S1/70.

Dated 23-1-46
28

From

The Chief Engineer,

P.W.D. Elecy. Branch,

Lahore.

To

G.N.Pandit, Esqr. B.Sc(Bose) B.So.(London) I.S.E.
Deputy Secretary to Government of Bombay,
Public Works Department.

Subject:- Wooden poles for transmission and
Distribution ~~ma~~ lines.

.....

Sir,

With reference to your letter No.7656/36 E1(I)
dt. 12 Jan., 1946. I have the honour to forward here-
with Drawing No. U/DM-51.

I have the honour to be,
Sir,

Your most Obedient Servant,

Sd/-
Stores Officer,
for Chief Engineer,
'SD.25/1'

D.A.
Drawing No;
U/DM-51.

7656/36
4184

El.Br.(I).

P. W. D.

Submitted.

2. The main case has been refd. u.o. to the R.L.A.
on the 2nd inst. Its return may be awaited & in the
meanwhile the drawing below may shown u.o. to the S.O.
(El.Grid) for information.

Id/-
5/2/46.

Id/-
5/2/46.

*U.o. to the S.O.(El.Grid), dt. 6-2-46.

*with the drawing.

Electric Grid Office-

Seen and returned with compliments.

To

The Secy. to Govt.,
P.W.D., Bombay, U.B.R. No.ElG.148/836
dated 25-2-1946.

SAP/-

47

Letter from the Secretary to the Government of Mysore,
Electrical Department, No.E.D.S.1935, dated the 22nd
February 1946.

.....

Poles for Transmission and Distribution Lines.

I am directed to acknowledge the receipt of your letter
No.D.1637-46/Pol. dated the 2nd February 1946 on the above
subject, and to forward herewith two drawings showing the
type designs of wooden poles used in Mysore State for
transmission and distribution lines. The minimum ground
clearance for voltages below 66,000 volt is maintained
at 18 feet and as there had been very few instances of
breakage of insulators by stones thrown at them, no remedy
has been considered necessary.

The office of the Hon'ble the Resident in Mysore,
Dated Bangalore, the 28th Feby. 1946.

No.D.3184-46/Pol.

Copy, with enclosure in original, forwarded to the
Secretary to the Government of Bombay, Public Works De-
partment, with reference to his letter No. 7656/36-El(I),
dated the 22nd January 1946.

Sd/-
SECRETARY TO THE RESIDENT.

El.Br.(I)

7656/36/8809.
P. W. D.

The main case is under u.o.r. to the S.O.(El.Grid)
since the 9-2-46. The drawing sent by the Ch. Engr.,
P.W.D., Lahore was shown to the S.O. These two drawings
slipped "B" & "C" may also be shown u.o. to S.O. for in-
formn. & with a request to return these pps. along with
the main case.

Id/-
6/3/46.

Id/-
7/3/50.

*U.O. to S.O., dt. the 8-3-1946.
*with three drawings slipped A, B, & C.

U.O.R. No.El.g.148/1630, dt. 20-4-46.
Sec.to Govt. Id/-
0WD 20/4/46-

Seen.

Id/-

41

(TRUE COPY)

Punjab P.W.D., Electricity Branch.

MemoNo. CO4/81/71.

Dated 20-3-46.

From.

The Chief Engineer, Punjab,
P.W.D. Electricity Branch,
Lahore.

To

The Special Officer (Electric Grid Offices)
Govt. of Bombay ;
Foreshore Road, Bombay I.

Sub:- Wooden poles for transmission and
Distribution Lines.

Sir,

With reference to your letter No. Elg.158/845 dated 26th February 1946. I have the honour to forward herewith a copy of the Notification, issued by the Govt. of Punjab authorising relaxation of Rules 69 of the Indian Electricity Rules (1937).

I have the honour to be,
Sir,
Your most obedient servant.

Sd/-

D.A.: Copy of
Notification.

Stores Officer,
For Chief Engineer.

(TRUE COPY).

From

Electric Inspector of Govt. Punjab

To

The Chief Engineer, Punjab,
P.W.D. Electricity Branch,
Lahore.

No. 4384

Lahore the 3rd December, 1938.

Subject:- Relaxation of Rules 69(1)(a)
& 69(2) of the Indian Electricity
Rules, 1937.

6

Sir,

With reference to your letter No. 6114/971, dated 26th April, 1938, addressed to the Secretary to Government Electricity & Industries Departments Lahore, and in continuation of those office orders No. 4375 dated 2-12-38, I have the honour to say that it has been pointed out by the Secretary at that Rule 69(1)(a) of the Indian Electricity Rules, 1937, may be relaxed by an Inspector under the provisions of the Rule 118 of the said rules.

2. In compliance with your wishes, and in exercise of the powers conferred by Rule 118 of the Indian Electricity Rules, 1937, I therefore direct that the provisions of Rule 69(1)(a) of the said rules are relaxed in respect of the Punjab Public Works Department, Electricity Branch, to the extent that the height of medium and low pressure lines over any part of a street or other public place is reduced from the minimum of 20 feet prescribed by the rule to the following:-

(a) 19 feet across a public road:

(b) 17 feet along a public road and in other positions
and,

(c) 15 feet in situations inaccessible to vehicular
traffic.

3. As regards relaxation of Rule 69(2) of the Indian Electricity Rules, 1937; it has been pointed out by the Secretariat that the relaxation as drafted is not in effect a relaxation of the rule but merely an interpretation of the expression "adequately guarded".

I agree, with these views and do not intend dealing further with the matter.

No.686-D

Lahore the 3rd December, 1938.

Copy forwarded to the Director of Industries, Punjab with reference to his U.O. No.C/1/7/1550, dated 20-6-38, and in continuation of this office U.O. letter No.683/D dated 2-12-38.

It is requested that the relaxation of Rule 69(1)(a) may be brought to the notice of Govt. vide Rule 118(3) of the Indian Electricity Rules 1937.

Sd/-

Electric Inspector to Govt.

Punjab.

Electric Grid Offices.

In addressing Government my letter, dated 1st/3rd August 1945 - page 1 ante - the intention was that all the rural lines will be constructed to the lower clearances, subject to the restriction mentioned in para. 8 of that letter. The net effect of adopting the procedure suggested by the R.L.A. page 39 ante - will be that all new works will have to have a complete blue print showing all the lines and an order of relaxation passed. When an extension takes place, the further line will have to be covered by a yet another relaxation. Legally, only the lines shown in the blue print accompanying the order will be entitled to relaxation. The procedure will be so cumbersome that it will soon get out of use.

2. In order to see if there was any possibility of simplifying procedure, I addressed the Chief Engineer (Electricity Branch), P.W.D., Punjab, and at my request he has sent to me a copy of the relaxation order, dated 3rd September 1938, issued by the Electric Inspector to the Government of Punjab. A copy of the letter, dated 20th/22nd March, 1946, together with a copy of the order is placed below. It will be noted that under the powers conferred on him by Rule 118 of the Indian Electricity Rules, 1937, the Inspector has granted general relaxation of the provisions of Rule 69(1)(a) of the said Rules in respect of the Punjab Public Works Department, Electricity Branch.

3. Under Rule 117 of the Indian Electricity Act Rules, Government is competent and under Rule 118, Electric Inspector is competent to grant relaxation. The R.L.A. has held that under Rule 118 Government is competent to grant relaxation only in a particular case. As pointed out in para. 1 above, such restricted relaxation will be difficult to make use of. In Punjab, the Electric Inspector has issued an order of relaxation referred to above. If a similar order of relaxation is issued by the Electric Inspector, Bombay, it will meet our requirements. In accordingly request that the question of the Electric Inspector issuing an order of relaxation may kindly be

El.Br.(I).

Submitted.

2. Pl. see O.N., dated the 20-10-45. Rule 69(1)(a) of the I.E.Rules, 1937 provides that every conductor of an aerial line (not being a trolley-wire or a traction feeder on the same support as a trolley-wire) shall be at least 20 feet above the ground where it is over any part of a street or other public place. The ~~particular~~ proposal in these papers is to relax the provisions of this rule in so far as 11000 volt and 400230 volt distribution lines of the B'bay.Electric Grid are concerned and to permit the S.O. to reduce the height of clearance above ground from 20 feet to 17 feet in rural areas and where road, canal and such other crossings are not involved. The acceptance of this proposal, which involves the use of wooden poles instead of steel poles, is suggested by this Deptt as a measure of economy and to make use of local Provl.Forest produce.

3. The immediate point at issue is whether the Govt. can make the proposed relaxation under rule 117 of the I.E.Rules 1937, which is reproduced on p. ante. Attention in this con. is invited to the following proceedings:-

- (1) Paras 4 & 5 of the O.N.dated the 20-10-45,
- (2) S.O's.note, dated the 29-10-45,
- (3) R.L.A's opinion No.335 dated the 15-1-46,
- (4) ~~EXHIBIT~~ S.O's note, dated the 30-1-46.
- (5) R.L.A's note, dated the 8-2-46,
- (6) S.O's. note, dated the 20-4-46.

'A' { The R.L.A. has held that an order of relaxation under rule 117 must be in relation to any particular case. In his note, dated the 20-4-46, the S.O. points out that such restricted relaxation will be difficult to make use of and suggests that the El. Inspector, Bombay Prov., may issue an order of relaxation similar to the one issued by the El. Inspector, Punjab, under the provisions of rule 118 of the I.E.Rules, 1937 which is reproduced below for ready reference:-

"118. Relaxation by Inspector.- (1) An Inspector may, by order in writing, direct that any of the provisions of rule 6, 61, 62(2), 62(3), 63, 67, 68, 69(1)(a), 73, 74, 75 and 76 shall be relaxed in any particular case to such extent and subject to such conditions as he may think fit.

(2) Where the pressure on any system does not exceed 125 volts an Inspector may, by order in writing, direct that any of the provisions of rules 38, to 45, both inclusive, 49, 55, 56, 58 to 70, 72 to 111, and 115, shall be relaxed as regards such system to such extent and subject to such conditions as he may think fit.

(3) Every relaxation so directed shall be reported forthwith to, and shall be subject to disallowance or revision by, the provincial Govt. or where the relaxation affects mines, oil fields or railways, the Central Government."

The powers of relaxation of the El. Inspector under rule 118 are also with ref. to any particular case. The ruling of the R.L.A. refd. to at 'A' overleaf would equally hold good in the case of the powers of the El. Inspector under rule 118 - vide in this con. the R.L.A.'s opinion quoted in para. 5 of the O.E. dated the 20-10-45. The fact that the Punjab Govt. had relaxed the provisions of rule 69(1)(a) in the case of the Punjab P.W.D. Electricity Br. was brought to the notice of the R.L.A. who saw no new ground for modification of the view already expressed by him. The only new ground which is now revealed in the subsequent corres. of the S.O. with the Ch.Engr., Punjab Govt. is that the order of general relaxation is made by the El. Inspe~~r~~. under rule 118 instead of ^{by Govt. itself under rule 117. In view, however of} the position stated at 'B' above this fact would not alter the opinion expressed by the R.L.A. and it would not be in order for Govt. to direct the El. Inspector to order the relaxation under rule 118 which it cannot itself do under rule 117. In the circumstances the only course open is either to follow the procedure suggested by the R.L.A. howsoever cumbersome it may be or

57

or to move the Central Ely. Board to amend suitably rule 69(1)(a) to achieve the object. The latter course would however take a lot of time and it is again a question whether the C.E.Board would agree to the amendment. Before a decision is taken the R.L.A. may perhaps be requested to obtain the opinion of the Advocate Genl. on the point whether under the provisions of rules 117 and 118 Govt. and the El. Inspector can respectively grant genl. relaxation of rule 69(1)(a) in the manner proposed by the S.O.(El.Grid) in view of the fact that such relaxation has been granted by the El. Inspector Punjab.

4. The following information was asked for in G.L.No.7656/36 -El.(I), dated the 1-11-45 from the Govts. of Madras, Punjab, U.P. and Mysore -

- (a) copy of type designs for wooden poles for transmission and distribution lines used in the Province,
- (b) whether minimum ground clearance for transmission and distribution lines of 20' as reqd. by I.E.Rule 69, is adhered to in the Province and whether any reduction therein is under consideration. and
- (c) whether ^{any} difficulty has been experienced in the breakage of insulators by stones thrown at them and whether any remedy has been found effective.

The information has been recd. and is summarised below. It has been seen by the S.O.(El.Grid).

5. Reg:(a): The type designs subtd. by the various Govts. are put up below. They have been seen by the S.O.(El.Grid.)

6. Reg:(b): ~~THE~~ In Madras the minimum of 20' is being adhered to for all the transmission and distribution lines and there is no proposal to reduce this minimum.

In Punjab the rule has been relaxed for medium and low pressure lines as follows:-

- 1. Ground clearance of lowest conductor
across public roads 19 ft.
 - 2. Ground clearance of lowest conductor
along public roads 17 ft.
 - 3. -Do- Do- inaccessible to vehicular traffic. 15 ft.
 - 4. -Do- at places where Taxis are to pass. 20 ft.
- In

In U.P. the minimum of 20' ~~is~~ maintained.

In Mysore the minimum ground clearance for voltages below 66000 volt is maintained at 18'. (From the S.O's. remarks on p.12 ante it is seen that the Mysore Govt. do not give effect to the I.E.Act.)

7. Reg.(c): In Madras slight difficulty was experienced in the early stages of development due to mischievous boys throwing stones at the insulators but not now. No special steps were taken to prevent this.

In Punjab there have been no such cases.

In U.P. no difficulty has been encountered in respect of breakage of insulators due to stone throwing. The Hydro El.Engr. of that Govt. however observes that insulator manufactures can offer special designs for toughened insulators to minimise breakage from this hazard.

In Mysore there had been very few instances of breakage of insulators by stone thrown at them but no remedy has been considered neccy.

Id/-
1/5/46.

The office note states the position ^{very} clearly and I agree with the views expressed therein. I suggest that the ^{course} ~~cause~~ suggested by the R.L.A. may be followed. I do not think this is likely to cause as much inconvenience as feared by the S.O. The S.O. may be informed accordingly.

2/- The R.L.A's opinion seems to be undoubtedly correct and no useful purpose is likely to be served by consulting the Adv. Gen.

Id/-
2/4/46.

I agree,

Id/- -
3/5/46.

El.Br.(I).

Resubmitted with the neoy. draft for approval and
submision to H., P.W.D.

Id/-
6/5/46.

Id/-
6/5/46.

H.M.P.W.D.

Id/-
8/5/46.

Id/-
8/5/46.

No.7656/36-El.(I).

P. W. D.
B.C., 11th May 1946.

To

The S.O.(El.Grid),

Subject: Relaxation of rule 69(1)(a) of the I.E.Rules
1937 in respect of the distribution line of
the Bombay El. Grid.

Ref: Your letter No. Elg.148/2455, dated the 1-8-45
and subsequent u.o.r. No. Elg.148/1624, dated the 20-4-46.

2. Govt. accepts your proposal to use wooden poles instead
of steel poles wherever possible, but as regards your pro-
posal to reduce the height of clearance provided in rule
69(1)(a) of the I.E.Rules, 1937 from 20 feet to 17 feet in
respect of the rural lines subject to certain restrictions,
I am to state that in view of the opinion of the R.L.A.,
No.335, dated the 15-1-46 (copy enclosed), neither Govt.
nor the El. Inspector, Bombay Prov., can under the provisions
of rules 117 and 118 of the I.E.Rules 1937, respectively,
issue an order granting general relaxation of the provisions
of rule 69(1)(a) of those rules. Govt. considers that the
course suggested by the R.L.A. in this respect in his opinion
quoted above is not likely to cause as much inconvenience
as feared by you; it should be followed and specific relax-
ation obtained in each case.

By order of the G. of B.

Copy, with a copy of the R.L.A's opinion, for informa-
tion to the El.Engr. to Govt. with ref. to his No. IRM 31/2234
dated the 13-8-45.

Id/-
6/5/46.

Id/-
6/5/46.